

REMARKS

Reconsideration of the application, as presently amended, is respectfully requested.

Claims 12-24 are pending in the application, of which only claims 12 and 24 are independent.

In the Office Action of December 19, 2002, the Examiner rejected claim 12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the Examiner, claim 12 is incomplete for omitting essential structural cooperation of elements, namely, omitting the structural connection between the first filter, the grain-refining material feed, and the second filter.

By means of the present Amendment, claim 12 has been amended to recite that the grain refining material feed is disposed "downstream" from the first filter in the flow direction, and that the second filter is disposed downstream from the feed in the flow direction. Applicants submit that the Amendment clarifies the structural connection among the first filter, the grain refining material feed, and the second filter. Therefore, applicants believe that the cooperation of the elements is now specified in claim 12.

Accordingly, withdrawal of the rejection under 35 U.S.C. 112, second paragraph, is respectfully requested.

In the Office Action dated December 19, 2002, the Examiner rejected claims 12-13 and 19-20 under 35 U.S.C. 103(a) as being unpatentable over US 4,928,748 (Guthrie et al., hereinafter "US '748"), in view of US 4,113,241 (Dore, hereinafter "US '241"). The Examiner further rejected claims 18 and 22-23 under 35 U.S.C. 103(a) as being unpatentable over US '748 in view of US '241, and further in view of US 4,834,876 (Walker). The Examiner also rejected

claim 21 under 35 U.S.C. 103(a) as being unpatentable over US '748 in view of US '241, and further in view of US 3,907,962 (Ogso).

Applicants respectfully traverse these grounds for rejection. For the reasons set forth below, as well as for other reasons, it is believed that the claims, as amended herein, are not rendered unpatentable by the prior art of record.

In particular, US '748 discloses a device for filtering a metal melt having two filters, 40 and 62. As recognized by the Examiner, US '748 does not disclose a grain-refining material feed as recited in independent claims 12 and 24, nor the ceramic foam plate of claims 14 and 17.

To overcome these deficiencies, the Examiner has combined US '748 with US '241. US '241 discloses an apparatus for the filtration of a molten metal which apparatus includes a ceramic foam filter 5. US '241 also discloses, as noted by the Examiner, the step of adding grain-refining materials upstream of the filter 5. See, col. 6, lines 3-19. However, US '241 does not disclose the arrangement of a grain-refining material feed which is downstream of a first filter, and upstream of a second filter, as would be required by both claims 12 and 24.

Indeed, there is no teaching in either US '748 or US '241 for positioning a grain-refining material feed downstream of a porous filter. In particular, as discussed in paragraph 0009 of the present application, it has been found that for metal melts, the filter properties of a filter having a porous filter medium are significantly reduced by the prior addition of a grain-refining material. Therefore, according to the presently claimed invention, the grain-refining material feed is located downstream of the first filter. In order to remove any impurities introduced by the grain-refining material feed into the metal melt, a second filter is disposed downstream of the grain-refining material feed.

Because the prior art never recognized the problems associated with the grain-refining material feed, there can be no teaching or suggestion even in the combination of US '748 and US '241 for locating the grain-refining material feed between two filters.

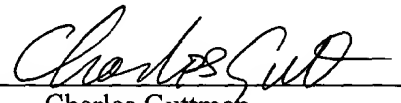
Accordingly, withdrawal of the rejection of claims 12 and 24 and all the claims which depend from them under 35 U.S.C. 103 is in order.

In view of the foregoing, it is believed that the present application is in condition for allowance and a favorable action on the merits is respectfully requested.

The Examiner is hereby advised that new Power of Attorney is being filed concurrently with this Amendment. The Examiner is requested to direct all future communications to the undersigned at the address and telephone number given below.

Respectfully submitted,

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Enclosures: Petition for Extension of Time
Revocation of Power of Attorney
New Power of Attorney
Statement Under 37 CFR 3.73(b)